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09/726,056	11/30/2000	Robert J. Donaghey	99-463C	4733

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VERIZON CORPORATE SERVICES GROUP INC.
C/O CHRISTIAN R. ANDERSEN
600 HIDDEN RIDGE DRIVE
MAILCODE HQE03H14
IRVING, TX 75038

EXAMINER	
NGUYEN, ALAN V	

ART UNIT	PAPER NUMBER
2662	

DATE MAILED: 08/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/726,056	DONAGHEY, ROBERT J.	
	Examiner	Art Unit	
	Alan Nguyen	2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 May 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment filed on 13 May 2004 under 37 CFR 1.131 has been considered but is ineffective to overcome the reference.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 13, 15, 17, and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Duree et al (US 6,147,994) hereinafter Duree.

Regarding **claims 13, 15, 17, and 19** Duree discloses a method, device, computer readable medium, and system of forwarding packets received at a first gateway in a network **(column 32, lines 25-28 discloses a means to route an actual destination beyond the first gateway)**, comprising:

Duree discloses receiving a message at the first gateway, the message comprising a plurality of virtual circuit identifiers associated with other gateways in the network **(column 33, lines 53-56 discloses the CCM 2610 sends a control message**

to the gateway 2605 to modify the VPI/VCI of the incoming cells so they contain the VPI/VCI selected by the CCM);

Duree discloses receiving packets for transmission from the first gateway **(element 2605)** to a destination address **(column 14, lines 2-8 discloses The VPI/VCI combination would correspond to a unique virtual connection pre-provisioned from ATM interface 930 to the appropriate network destination)** associated with a second gateway **(element 2655)**; and sending the received packets towards the second gateway using one of the received plurality of virtual circuit identifiers. **(column 34, lines 27-33 discloses that procedure could be repeated for multiple calls between different nodes. This includes calls from network 2650 to network 2600. The CCM, gateway, and cross-connect work together to provide SVCs on a call-by-call basis)**.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 2, 4, 5, 7, 8, 10, 11, and 20 under 35 U.S.C. 103(a) as being unpatentable over by Duree in view of Garcia-Luna-Aceves et al (US 6,683,865) hereinafter Garcia.

Regarding **claims 1, 4, 7, 10, and 20** Duree discloses a method, device, computer readable medium, and network **("system and method", column 2 lines 5 and 57; column 4, lines 58-64 discloses the use of a microprocessor and memory for the system to carry out the instructions of the system)** of distributing virtual circuit identifiers associated **(column 2, lines 47-50 discloses the invention facilitates the processing of virtual connections such as VPI/VCIs)** with gateways in a network **(column 3, lines 28-31 discloses the invention can be used in various devices including ATM gateways)**, comprising:

Duree discloses receiving, at a first router/switch **(figure 26, element 2625)**, packets comprising a plurality of first virtual circuit identifiers associated with gateways in the network **(column 33, lines 53-67 and column 34, lines 2-8 discloses that node 2625 is an ATM device that receives ATM cells that comprises VPI/VCIs, and the nodes represent ATM switches and cross-connects. These are intermediary devices that receive and forward ATM packets that contain virtual circuit identifiers)**;

Duree discloses determining if any gateways are connected to the first router/switch **(column 34 lines 1-5 discloses that node 2625 can determine which gateway it needs to have a connection to).**

Duree discloses assigning second virtual circuit identifiers to connected gateways **(column 31, lines 49-67, column 32, lines 35-62 and column 34, lines 15-18 discloses the call connection manager, CCM 2610 will select the VPI/VCI over**

connection 2625 of figure 26. The CCM is assigning the VCI for gateway 2665); and

Duree discloses initiating the transmission of a message to the connected gateways informing the connected gateways of the plurality of first virtual circuit identifiers **(column 33, lines 53-56 discloses the CCM 2610 sends a control message to the gateway 2665 to modify the VPI/VCI of the incoming cells so they contain the VPI/VCI selected by the CCM)**.

Duree, however, does not disclose where the steps of *assigning* the virtual circuit identifiers and *initiating* the transmission of a message to the gateway about the virtual circuit identifiers are done from node 2625. Duree further fails to disclose where node 2625 receives packets flooded from other network devices in the network.

Garcia discloses a system for routing and switching in computer networks that utilizes routers (figure 1) that each maintain tables used to look up path Ids for packet validity, forwarding, and to identify the next hop **(column 13 lines 15-30 and column 8 lines 6-17)**. Garcia also discloses the use of flooding to obtain local link identifiers within the network **(column 5 lines 5-10 and 30-42).**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Duree's apparatus to have node 2625 to contain both its own functions as a router and the lookup functions of call connection manager 2610, as taught by Garcia. The motivation is a more efficient and less complex system as desired by Duree since this will require less messaging and signaling among the devices and switches. There will be reduced interfaces as each node 2625 would no longer require a

communication link to the call connection manager 2610, and the gateway will have a single interface only to node 2625 and no interface to call connection manager 2610. Also flooding will help maintain an accurate and efficient system where routers are updated constantly. This ensures that the packets reach their desired destination.

Regarding **claims 2, 5, 8, and 11** with the features of parent claims 1, 4, 7, and 10 addressed above, Duree discloses where the device further comprises initiating transmission of a packet to neighboring nodes informing the nodes of the assigned second virtual circuit identifiers and the plurality of first virtual circuit identifiers **(column 32, lines 59-61 discloses that after transmission of the message to the gateway, the CCM also generates another message to the next node requiring a call message)**.

6. Claims 14, 16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Duree in view of Endo et al (US 6,275,494) hereinafter Endo.

Regarding **claims 14, 16, and 18** with the features of parent claims 13, 15, and 17 addressed above, Duree discloses where CCM has the capabilities to update its data **("handling messages from network operations such as queries, configuration instructions, and data updates", column 20, lines 51-55)**.

Duree fails to expressly disclose where the device further comprises updating at least one virtual circuit table stored at the first node using the first virtual circuit identifiers.

Endo, however, discloses a packet switching system that where the control processor updates a virtual circuit table stored at the first node **(figure 1, element 9; column 16, lines 38-42 discloses the control processor has the capabilities to update the IP address/VPC mapping table 95 using the address mapping table and VPC management table 96).**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Duree's apparatus to allow the CCM to be able to update the virtual circuit table stored at the first node using the first virtual circuit identifiers, as taught by Endo. The motivation is a more accurate and updated system that decreases delays in packet switching, as disclosed by Endo on column 2, lines 30-34.

7. Claims 3, 6, 9, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Duree in view of Garcia and in further view of Endo.

Regarding **claims 3, 6, 9, and 12** with the features of parent claims 1, 4, 7, and 10 addressed above, Duree, as modified, discloses where CCM has the capabilities to update its data **("handling messages from network operations such as queries, configuration instructions, and data updates", column 20, lines 51-55)**.

Duree fails to expressly disclose where the device further comprises updating at least one virtual circuit table stored at the first node using the first virtual circuit identifiers.

Endo, however, discloses a packet switching system that where the control processor updates a virtual circuit table stored at the first node **(figure 1, element 9;**

column 16, lines 38-42 discloses the control processor has the capabilities to update the IP address/VPC mapping table 95 using the address mapping table and VPC management table 96).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Duree's apparatus to allow the CCM to be able to update the virtual circuit table stored at the first node using the first virtual circuit identifiers, as taught by Endo. The motivation is a more accurate and updated system that decreases delays in packet switching, as disclosed by Endo on column 2, lines 30-34.

Response to Arguments

8. Applicant's answers (13 May 2004) regarding claims 1-20 have been fully considered but are not persuasive. Regarding independent **claims 1, 4, 7, 10,** and new **claim 20**, the Applicant argues that the Duree reference (US 6,147,994) fails to disclose the limitations of the above claims. The Examiner respectfully disagrees Although the disclosure of the Applicant in the specification and the embodiment of Duree do differ in some aspects, the limitations of claims 1, 4, 7, and 10 are written in a broader interpretation and does not encompass the detailed limitations of the Applicant's disclosure. Therefore, the Duree reference reads on the limitation of claims 1, 4, 7, and 10. In regard to claim 1, Duree discloses receiving packets having a plurality of first virtual circuit identifiers associated with gateways in the network. Referring to figure 26 and col 33 lines 53-67 and col 34 lines 2-8 Duree discloses that node 2625 is an ATM device that receives ATM cells that comprises virtual identifiers, and the nodes represent ATM switches and cross-connects. These are intermediary devices that

receive and forward ATM packets that contain virtual circuit identifiers. Referring to col 34 lines 1-5 Duree discloses that node 2625 can determine which gateway it needs to have a connection to. Referring to col 31 lines 49-67 and col 32, lines 35-62 Duree discloses assigning second virtual circuit identifiers to connected gateways the call connection manager, CCM 2610 uses a table to select the correct output VPI/VCI for the call from node 2625, and sends that output to gateway 2665 over connection 2625 of figure 26. The message indicates to the gateway to modify the VPI/VCI of the incoming cells so they contain the correct output VPI/VCI to the cross connect. Applicant has amended claims 1 and 7 to where all steps recited in the above claims are done in the router switch. Applicant has amended claims 4 and 10, and has added new claim 20 to include the feature of where the router/switch receives packets (containing the virtual circuit identifiers) that are flooded from other network devices for accuracy. This has changed the scope of the invention. Duree fails to disclose these new amendments, but the teachings of the Garcia-Luna-Aceves reference (US 6,683,865) show a scheme of having routers that include lookup tables for forwarding and next hop identification, and the technique of flooding packets to all routers. The reasoning to adapt the teachings of Garcia is a more efficient and less complex system as desired by Duree since this will require less messaging and signaling among the devices and switches. Also flooding will help maintain an accurate and efficient system where routers are updated constantly. This ensures that the packets reach their desired destination.

Regarding independent **claim 13** Duree fails to disclose the gateway receiving message comprising a plurality of virtual circuit identifiers associated with other gateways in the network. The embodiment discloses a network with numerous routers and intermediary equipment. This includes interworking multiplexers and gateways as disclosed by Duree on col 3 lines 27-32. Although figure 26 only shows two gateways and eight nodes, it is implied that the network can be larger and connected to other networks. According to col 33 lines 60-67 the nodes in figure 26 can be ATM switches that connects said gateways to other networks that have additional gateways. Referring to col 31 lines 37-67, call connection manager CCM 2610 selects a virtual connection identifier for gateway 2665. CCM 2610 then send a message to gateway 2665 to associate a plurality of incoming virtual connection identifiers to outgoing virtual connection identifiers that will implicitly lead to other networks and gateways.

Regarding claims **3, 6, 9, 12, 14, 16, and 18** the Applicant states that the Endo reference US (6,275,494) "does not remedy the deficiencies in the disclosure of Duree with respect to claims 1, 4, 7, 10, 13, 15, and 17, from which claims 3, 6, 9, 12, 14, 16, and 18 depend respectively." Endo discloses on col 38-54 of a packet switching system that has a control processor able to update the contents of the mapping tables in the network system's routers. The teachings of Endo will help maintain an accurate and efficient system as desired by Duree, where routers are updated constantly and delays in switching will decrease. This ensures that the packets reach their desired destination.

It is concluded that the Duree reference in its entirety continues to anticipate claims 13, 15, 17, and 19 and in combination with the Garcia and Endo references continue to read on the claims 1-12, 14, 16, 18, and 20 through obviousness. Therefore the claims are not allowed over the prior art.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to show the state of the art with respect to routers in ATM networks:

US Patent (6,178,169) to Hodgkinson et al

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan Nguyen whose telephone number is 703-305-0369. The examiner can normally be reached on 9am-6pm ET, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 703-305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9314.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AVN

July 22, 2004

JOHN PEZZLO
PRIMARY EXAMINER